



RECIRCULATING AQUACULTURE TECHNOLOGY & AQUAPONICS WORKSHOPS

Friday 6th & Saturday 7th June 2014



RECIRCULATING AQUACULTURE TECHNOLOGY & AQUAPONICS WORKSHOPS

Presented by: Dr. Tom Losordo & Dr. Wilson Lennard

Dates: Friday 6 & Saturday 7 June 2014

Venue: Adelaide Convention Centre, North Terrace, Adelaide SA 5000, Australia
Conference Room 5

REGISTRATION COSTS:

(All figures in AUD, GST Inclusive)

Workshop Attendance only	AU\$375
Attendance at Workshop if attending World Aquaculture Adelaide 2014	AU\$285
Attendance at Workshop for Students	AU\$175

RESERVATIONS:

Reservations are essential, and only accepted with payment to World Aquaculture 2014.

Online registration and other registration information can be found at:

www.was.org or

www.aquaculture.org.au

or by contacting Sarah-Jane Day at:

sarah-jane.day@aquaculture.org.au

PLEASE NOTE:

World Aquaculture Adelaide 2014 conference Delegates receive a **\$90 DISCOUNT** on the normal registration for this workshop.

ABOUT THE WORKSHOP:

Aquaponic Solutions (Dr Wilson Lennard) and Pentair Aquatic Eco-Systems (Dr Tom Losordo) will again partner with the World Aquaculture Society - Asian Pacific Chapter to deliver an engineering and technology workshop in recirculating aquaculture and aquaponics.

RAS has experienced increasing popularity over the last two decades and we are now seeing an exponential increase in interest in the aquaponics field.

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DAY 1

Friday June 6, 2014

Recirculating Aquaculture Systems Technology (RAS)

Recirculating aquaculture technologies (systems that recondition and reuse water) continue to attract attention and are the subject of considerable capital investment worldwide.

This workshop is designed for a broad audience and seeks to provide participants with non-biased, research-based information about the design and management of recirculating aquaculture fish production systems. The information presented comes either from the first-hand research results, findings from the global research community, or the experiences of the presenter with commercial scale producers.

Workshop registration includes a technical workbook containing the prints of the slide presentations (electronic PDF copies of the presentations are not available for distribution), a compact disc containing useful publications and spreadsheets.

About the Presenter:

Dr. Tom Losordo is Principal Scientist & Chief Engineer for Pentair Aquatic Eco-Systems. Pentair, a global provider of water technology, has built a reputation for high-performance aquatics equipment to improve water quality and safety.

Dr. Losordo is an Emeritus Professor in the Department of Biological & Agricultural Engineering at North Carolina State University in the United States. Dr. Losordo has a Bachelor degree in Biology and an M.S. and Ph.D. in Biological and Agricultural Engineering.

Having been involved in aquaculture for more than 38 years, At NC State University, Dr. Losordo lead a program of applied research and public service in the area of recirculating aquaculture production systems and the treatment of freshwater and marine aquaculture effluents. Known as the North Carolina Fish Barn program, the program developed evaluated and demonstrated new technology for intensive fish farming at the commercial scale. While focusing on tilapia, hybrid striped bass, and most recently sturgeon, the Fish Barn program also investigated the production of rainbow trout, yellow perch, southern flounder, ornamental gold fish and koi carp in recirculating aquaculture systems.

Dr. Losordo has provided workshops, lectures and design services worldwide in recirculating and water re-use technologies since 1990.

Further information and registration is available at www.aquaculture.org.au / www.was.org or email: sarah-jane.day@aquaculture.org.au



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DAY 2

Saturday June 7, 2014

Aquaponics Aquaculture

Aquaponics was first developed as a method to ameliorate waste nutrients from recirculating fish farms, however, over the past 3 – 4 years has become a discipline in itself.

A broad cross section of society has become interested in aquaponics as a food production system. This is because aquaponics offers advantages such as water-use efficiency, nutrient resource use efficiency, ability to be located anywhere (does not require soil) and an ecological approach. However, it is the perceived advantages associated with “natural farming”, “food safety”, “natural production”, “organic produce” and “sustainability” that appear to be drawing more interest. People from the existing aquaculture and hydroponics industries are far more pragmatic about aquaponics than the plethora of new arrivals to the industry; they expect advanced engineering detail backed up with scientific data and justification. New entrants to the industry appear to be far more caught up what I call the “romance” of aquaponics, rather than the practicalities.

The commercial aquaponics section of this workshop is designed to introduce participants to the technicalities and engineering requirements of integration and hydroponic plant cropping whilst heavily relying on and integrating with the recirculating aquaculture section to deliver the realities of fish keeping and production using correct and established engineering principals. In addition, the aquaponics section will discuss the proliferation of technically naïve aquaponic system designs currently in the commercial aquaponics space and demonstrate the long-term unviability of many of these approaches.

About the Presenter:

Dr Wilson Lennard has worked as a professional scientist for over 25 years. He has skills and experience in many biological disciplines, including: human assisted reproductive technologies (IVF embryology), freshwater aquatic ecology, environmental biology, constructed wetland design and engineering, water sensitive urban design, grey water treatment and recycling, black water treatment and recycling, freshwater aquaculture, marine aquaculture, hydroponics, integrated aquatic farming systems and aquaponics.

He has worked in the aquaponics field for the last 13 years. Four of those years were associated with him obtaining a PhD degree in Applied Biology in 2006 from The Royal Melbourne Institute of Technology University, specialising in the adaptation and optimisation of aquaponics to Australian conditions and fish species. Since 2006 Dr Lennard has concentrated on developing a unique commercial aquaponics design, sizing and management methodology (Symbiaponics™) and commercialising aquaponics by bringing predictability to the technology via integrating existing and well-established principles from Aquaculture and hydroponics.

He currently runs his own global consulting company, Aquaponic Solutions, continues aquaponic research and travels the world teaching aquaponics and consulting on commercial aquaponic projects.

Recent projects include an aquaponic trial facility to compare commercial aquaponic plant productive rate with that of standard commercial hydroponics and an ongoing project to introduce aquaponic technology to the South Pacific Island nations for food security and import substitution. He currently lives in Melbourne, Australia.

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